

What is claimed is:

1. A femoral implant device for implementation into bone, comprising:
an elongated shank having an outer surface extending between a proximal end, terminating in a flat surface having an outwardly extending
5 stem, and a relatively narrow distal end;
at least one inlet aperture located in said flat surface of said proximal end;
a plurality of outlet openings located along said outer surface;
and a plurality of channels located within said shank connecting said at
10 least one inlet aperture with said plurality of outlet openings,
such that when said device is implanted into a femur, a bone growth promoting substance can be inserted into said at least one input aperture such that said substance can travel through said channels to said outlet openings to promote bone ingrowth between said implant device and the
15 bone.
2. The device of claim 1, wherein said bone growth promoting substance comprises platelet rich plasma.
3. The device of claim 1, wherein said bone growth promoting substance comprises bone morphogenetic protein (BMP).
- 20 4. The device of claim 1, wherein said bone growth promoting substance comprises concentrated leukocytes.
5. The device of claim, wherein said bone growth promoting substance is selected from the following list: TFG- α , β 1,-2; EGF, IGF-I; PGDF; FGF; IL-I; BMP-1,-2,-3,-4,-5,-6,-7,-8,-8B,-9,-12,-13; and VEGF.
- 25 6. A prosthetic device for implantation in bone, comprising:

- a body having a first surface for contacting bone and a second surface;
at least one input aperture located on said second surface;
a plurality of outlet openings located along said first surface;
and a plurality of channels within said body, coupling said at least one
5 input aperture with said plurality of outlet openings,
such that when said device is implanted into bone, a bone growth
promoting substance can be inserted into said at least one input aperture
such that said substance can travel through said channels within said body to
said outlet openings to promote bone ingrowth between said prosthetic device
10 and the bone.
7. The device of claim 6, wherein said bone growth promoting substance
comprises platelet rich plasma.
8. The device of claim 6, wherein said bone growth promoting device
comprises bone morphogenetic protein (BMP).
- 15 9. The device of claim 6, wherein said first surface comprises a textured
surface for promoting bone ingrowth.
10. The device of claim 9, wherein said textured surface contains an array
of beads.
11. The device of claim 9, wherein said textured surface contains an array
20 of fibrillar wires.
12. The device of claim 1, wherein said outer surface contains at least one
section for contacting bone.
13. The device of claim 1, wherein at least one said bone contacting
section contains a surface for promoting bone ingrowth.
- 25 14. A prosthetic device for implantation into bone, comprising:

a body having a first surface for contacting bone and a second surface;
and at least one groove located within said first surface each of which
opens to said second surface,

such that when said device is implanted into bone, a bone growth
5 promoting substance can be inserted into said at least one groove at said
second surface such that said substance can travel within said at least one
groove on said first surface of said body to promote bone ingrowth between
said prosthetic device and the bone.

15 15. The device of claim 14, further comprising a plurality of grooves within
said first surface which travel in a spiral around said body.

16. The device of claim 14, further comprising a plurality of grooves within
said first surface which travel along said body in a parallel manner.

17. The device of claim 14, wherein said body is sized to be implanted into
a femur.

15 18. The device of claim 14, wherein said body is sized to be implanted into
a hip bone.

19. The device of claim 14, wherein said bone growth promoting substance
comprises bone morphogenetic protein (BMP).

20 20. The device of claim 14, wherein said first surface comprises a surface
for promoting bone ingrowth.